Service Date: October 24, 2006

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

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IN THE MATTER OF MONTANA-DAKOTA UTILITIES CO., Application for Approval of Natural Gas Conservation Programs.	)	UTILITY DIVISION
	)	
	)	DOCKET NO. D2005.10.156
	)	ORDER NO. 6697c

FINAL ORDER

APPEARANCES

FOR THE APPLICANT:

Montana Dakota Utilities
John Alke, Hughes, Kellner, Sullivan & Alke, 40 W Lawrence, Helena, MT, 59601

FOR THE INTERVENOR:

Montana Consumer Counsel
Mary Wright, 616 Helena Ave, Helena, MT 59620-1703

Before:

Greg Jergeson, Chairman
Brad Molnar, Vice Chairman
Doug Mood, Commissioner
Robert H. Raney, Commissioner
Thomas J. Schneider, Commissioner

Commission Staff:

Will Rosquist, Utility Division
David Burchett, Utility Division
Martin Jacobson, Staff Attorney

INTRODUCTION

1. In this order the Montana Public Service Commission (PSC or Commission) issues its decisions on the October 14, 2005, application of Montana-Dakota Utilities Co. (MDU or Utility) for approval of natural gas conservation and energy efficiency programs and related program cost and lost revenue tracking and recovery procedures.

2. At an informational meeting on August 24, 2005, MDU and the Commission discussed a need for conservation programs in light of natural gas market conditions in the approaching 2005/2006 winter heating season. MDU committed to prepare a portfolio of conservation programs and a mechanism for recovering program costs and lost distribution revenues.

3. MDU has filed its proposed conservation and energy efficiency programs and tariffs to implement program cost and lost revenue tracking procedures.

4. On November 3, 2005, the Commission issued an Interim Order, *PSC Order No. 6697*, stating that the upcoming winter heating season (2005/2006) presented special circumstances, primarily extraordinary prices for electricity and natural gas, that justify expedited treatment of conservation, bill assistance, weatherization programs, and other measures that utilities implement or can implement. On an interim basis the Commission approved MDU's proposal, in its entirety, including cost recovery, subject to all laws applicable to interim approvals, including that approval on a final basis might not occur and costs incurred might not be recovered.

5. The Commission stated that it would not require MDU to implement programs with uncertainty in cost recovery. The Commission noted that programs identical to or substantially similar to those proposed by MDU are considered by the PSC to be programs that justify cost recovery. The Commission encouraged MDU to make its own management decisions, implement the programs, and accept the burden of demonstrating the costs of the programs are prudently incurred.

6. On November 14, 2005, the Montana Consumer Counsel (MCC) filed a motion for reconsideration of the Commission's interim order. MCC argued that interim approval of MDU's recovery of lost distribution revenues would be inconsistent with Montana statutes on interim orders, PSC interim order rules, and previous PSC orders. MCC also requested that certain language in the interim order be deleted because the language appeared to MCC to suggest the PSC had prejudged the merits of MDU's application.

7. On November 21, 2005, MDU filed a motion requesting an opportunity to file a response to MCC's motion for reconsideration.

8. On November 30, 2005, MCC filed a petition to intervene.

9. On December 15, 2005, MDU filed a response to MCC's motion for reconsideration. MDU argued that the PSC had the authority to approve MDU's proposed conservation programs and related cost recovery on an interim basis and that MCC's cited authorities were misinterpreted by MCC or not applicable.

10. On January 6, 2006, by notice of staff action and through delegated authority, the Commission granted MCC's petition to intervene.

11. On March 13, 2006, the Commission issued PSC Order No. 6697a, denying MCC's motion for reconsideration. The Commission found no basis for interpreting the statute in the fashion argued by MCC in this instance. The PSC determined it must be consistent in its interim order practice (*e.g.*, consistent among utilities, consistent among cases, possibly consistent between rate decreases and increases), if the nature of the cases are the same. The Commission determined that the nature of the present case (MDU gas conservation programs) is not the same as the nature of the previous case (NWE annual electric cost tracker), which MCC cited. In its arguments MDU identified the differences: NWE is a default supplier, MDU is not; and NWE's case involved a complete electric procurement plan, MDU's case involves only one element of natural gas service. The Commission also determined that a compelling difference is that MDU's application relates to natural gas and natural gas for the 2005/2006 heating season presented special aspects (*e.g.*, extremely high prices, possible supply problems) and an emergency nature. Those aspects did not exist in the NWE electric tracker.

12. On April 7, 2006, the Commission issued a Procedural Order, *PSC Order No. 6697b*, setting dates for written discovery, intervenor testimony, MDU rebuttal testimony, and other procedural items. The Commission scheduled a public hearing for August 3, 2006.

13. On May 23, 2006, MCC filed its intervenor testimony. MDU filed rebuttal testimony on June 29, 2006. The Commission conducted a public hearing on August 3, 2006. The parties waived their rights to briefing and no post hearing briefs were filed in this proceeding.

MDU'S FILING AND INTERVENOR TESTIMONY

MDU - October 14, 2005 filing

14. MDU said it focused its efforts on conservation programs that would provide near-term savings. It proposed programs to raise customer awareness of energy saving measures and, through financial incentives, encourage customers to invest in certain measures. MDU said it

was partnering with ENERGY STAR to promote the use of equipment that meets federal energy efficiency guidelines. MDU proposed the following programs:

- **Customer Conservation Starter Kits**. This program would alert customers to expected high natural gas prices. A packet of materials would provide information on ways to conserve energy, including a booklet produced by the U.S. Department of Energy titled "Energy Savers Tips on Saving Energy & Money at Home." The booklet contains information on home energy use, insulation and weatherization, heating and cooling, water heating, windows, landscaping, lighting and appliances. Customers would also receive an outlet gasket and a switch plate gasket.
- **Residential/Small General Service On-Line Energy Audit**. This program would provide residential and small general service customers an internet-based tool for guidance on potential energy savings from various energy efficiency measures. MDU's web site would link to the energy audit program, which would provide customers an opportunity to answer questions regarding their home (demographics, appliances, energy systems and customer practices). Audit program software would analyze the responses and return information on annual energy costs, provide recommendations for improving home energy efficiency and estimate energy savings from implementing the recommendations. Customers without access to the internet could use a mail-in survey.
- **High-Efficiency Furnace Incentive.** This program would provide customers a $150.00 rebate for purchasing and installing an ENERGY STAR rated furnace to replace an existing less efficient furnace. MDU estimated the average incremental cost of a high efficiency furnace, compared to a standard model, is $470. ENERGY STAR rated furnaces have an Annual Fuel Utilization Efficiency (AFUE) rating of at least 90%, 10% higher than standard efficiency models. MDU estimated that an average customer using 73 dekatherms of natural gas per year for heating would save a minimum of 7.3 dekatherms per year for the 15-year life of the furnace.
- **High-Efficiency Boilers.** This program would provide customers a $100.00 rebate for purchasing and installing an ENERGY STAR rated boiler to replace an existing less efficient boiler. MDU estimated that the average incremental cost of a high efficiency boiler, compared to a standard model, is $500. ENERGY STAR rated boilers have an AFUE of at least 85%, 5% higher than standard efficiency models. MDU estimated an

average customer using 73 dekatherms of natural gas per year for heating would save a minimum of 3.6 dekatherms per year for the 15-year life of the boiler.

- **High-Efficiency Water Heater Incentive.** This program would provide customers a $50.00 incentive for purchasing and installing a high-efficiency water heater to replace an existing less efficient water heater. MDU estimated that the average incremental cost of a high efficiency water heater, compared to a standard model, is $60. MDU defined a high-efficiency water heater as a unit with an energy factor of at least .62. Standard water heaters currently available in the market have an energy factor of .59. MDU estimated an average customer using 25 dekatherms of natural gas per year for water heating would save a minimum of 0.8 dekatherms per year for the 10-year life of the water heater.
- **Programmable Thermostats.** This program would offer customers a $20.00 incentive for purchasing a programmable thermostat that meets ENERGY STAR guidelines. MDU stated that the typical cost of a programmable thermostat ranges from $50 - $100. MDU stated that, on average, customers would save 1% of their heating energy use for each degree of setback, with an 8 hour minimum setback period. MDU stated that ENERGY STAR thermostats are pre-programmed for a 5 degree setback, so an average customer using 73 dekatherms of natural gas for heating would save approximately 3.6 dekatherms per year for the 10-year life of the thermostat.[1]

15. MDU determined these programs would be cost-effective after calculating benefits and costs from ratepayer, societal, participant and utility perspectives. Table 1 shows the benefit/cost ratios MDU calculated for each of these cost-effectiveness perspectives, and for each energy efficiency program. A benefit/cost ratio greater than one indicates that the benefits of a program, measured by the avoided cost of supplying natural gas, exceeds the cost of the program.

[1] The 1% savings per degree of set back was provided as an update to the October 2005 filing in response to data request PSC-001. The cost-effectiveness tests in the filing were based on 3% savings per degree of set back.

Table 1. Cost-effectiveness test benefit/cost ratios

Program	Cost-effectiveness test			
	Utility	Ratepayer	Societal	Participant
High-efficiency furnace	2.13	3.95	1.38	1.91
High-efficiency boiler	1.41	2.02	0.59	0.96
High-efficiency water heater	0.79	0.95	0.61	1.39
Programmable thermostats[2]	4.00	30.23	11.54	12.16
Energy audits	NA	NA	NA	NA
Conservation starter kits	NA	NA	NA	NA

16. In response to a data request *(PSC-001)*, MDU described the calculations underlying each cost-effectiveness test. The Utility test compares the net present value of the cost of supplying the energy saved over the life of the program (benefit) to the net present value of program-related costs and an estimate of lost margin due to reduced sales. The Ratepayer test (also referred to as the revenue requirements test) compares the net present value of the cost of supplying the energy saved over the life of the program (benefit) to the net present value of program-related costs; lost revenues are not included in the Ratepayer test. The Societal test compares the net present value of the cost of supplying the energy saved over the life of the program plus an estimate of avoided environmental damage (benefit) to the net present value of program-related costs and participant costs.[3] Finally, the Participant test compares the net present value of participants' bill savings over the life of the measure plus any incentives (benefit) to the net present value of participants' direct costs and an allocation of MDU's program-related costs and lost margin due to reduced sales.

17. MDU estimated the total cost of its proposed energy efficiency programs would be about $284,550 in the first year and would produce energy savings of about 35,000 dekatherms. MDU proposed to increase rates $0.034 per dekatherm for all residential and small general service customers to recover the cost of the programs.

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[2] The benefit/cost ratios in Table 1 reflect the update referenced in footnote 1.

[3] The source of avoided environmental damage was taken from a study assessing environmental cost values for certain natural gas emissions that were approved by the Minnesota Public Utilities Commission in 1997. *See response to data request PSC-004.*

18. MDU proposed a conservation program tracking mechanism to periodically adjust rates to reflect actual program costs and dekatherm savings.[4] MDU proposed the first adjustment for May 1, 2006 to reflect actual costs and savings as of February 28, 2006.

MCC - Larry Nordell

19. On May 23, 2005, MCC's economist, Dr. Larry Nordell, submitted prefiled testimony. Nordell testified that, although all MDU's proposed programs would be beneficial in terms of reducing energy consumption, the benefits accrue primarily to the participants. He also said the programs vary in terms of their economic efficiency.

20. Nordell found that MDU conducted the program cost-effectiveness analyses in an acceptable manner, although Nordell did not verify the underlying assumptions, such as participation rates and cost estimates. Nordell said the high efficiency furnace and programmable thermostat programs appeared reasonable from all perspectives. Nordell opposed the high efficiency boiler and water heater programs. Nordell stated that the high efficiency boiler program would be cost-effective from the Utility and Ratepayer perspectives, but the benefits would be modest. The Societal and Participant tests showed that the boiler program would not be cost-effective. The cost of gas saved under the boiler program would be $7.18 per dekatherm, which, Nordell said, is probably higher than the cost of purchasing gas.

21. Nordell stated the Utility, Ratepayer and Societal cost-effectiveness tests all showed negative net present value, and benefit/cost ratios less than one, for the water heater program. The cost of gas saved by the water heater program would be $8.17 per dekatherm, which, according to Nordell, is higher than the cost of purchasing gas.

22. Nordell opposed MDU's lost revenue recovery proposal. He said lost revenues are a "theoretical construct" and cannot be measured or verified. Consequently, it would not be appropriate to collect lost revenues through a tracker mechanism.[5] He also expressed concern

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[4] MDU stated that it plans to use the Option A approach for savings verification established in the Federal Energy Management Program measurement and verification guidelines. Option A verification involves "stipulation of the engineering calculation of savings estimates per participant and annual verification of the number of participants and efficiency of the equipment installed to determine the total energy savings." *See response to data request PSC-003.*

[5] Nordell asserted that trackers are usually reserved for costs that are volatile, represent a significant portion of a utility's overall costs, and are not within the utility's control. Examples include fuel costs and power supply costs. In rate cases, the Commission requires cost adjustments to be "known and measurable." Nordell stated that the same standard should apply to trackers. *See response to data request PSC-005.*

over the fairness of collecting lost revenues from non-participants.

23. Nordell said lost revenue recovery is not needed to induce MDU to implement conservation programs if the Commission has directed such programs. If MDU failed to implement cost-effective conservation programs as the Commission directed, it would be at risk for an imprudence disallowance.[6]

24. Nordell testified it would not be fair to non-participants to collect lost revenues from all ratepayers. He said in the case of electric demand-side programs some have argued that it only takes buying a light bulb to become a participant, but MDU's furnace and programmable thermostat programs are targeted to a small group of customers so most of the benefits of the programs go to participants.

25. Nordell acknowledged that all customers benefit when reduced demand for gas relieves pressure on supply and prices decline. However, he said MDU represents an insignificant portion of gas demand and the effect of the proposed conservation programs will have no discernible impact on gas prices. He also said that although reducing demand could benefit all customers by reducing peak day reservation and storage costs, the nature of MDU's relationship with Williston Basin pipeline renders such benefits unlikely; reduced demand for pipeline services would likely lead to an increase in FERC-jurisdictional rates that would be borne by all MDU customers. Finally, Nordell said any long-term savings associated with postponing pipeline expansion are speculative.[7]

26. Nordell said non-participants subsidize participants' benefits by paying the bulk of direct program costs, so it would be unfair for non-participants to pay for lost revenues associated with participants' savings. He recommended a conservation rider on program participants' bills to recover any approved lost revenue.

MDU - Tamie Aberle

27. On June 29, 2006, Tamie Aberle filed rebuttal testimony for MDU. Aberle agreed

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[6] Response to data request PSC-005d.

[7] Nordell asserted that, in the past, providing incentives for participation in demand-side programs was acceptable in the case of electric programs because the demand-side measures were thought to displace high cost new plants that would drive up the average cost of power for all customers. However, he said that is quite different from the current case. *Response to data request PSC-006d.*

with Nordell that it is hard to cost-justify the boiler and water heater programs on a stand alone basis. Aberle said MDU was able to justify these programs by combining them with the other programs and looking at all of them as a package. She said the South Dakota Public Utilities Commission (SDPUC) expressed similar concerns and MDU discontinued the boiler and water heater programs in South Dakota. Aberle also suggested discontinuing them in Montana.

28. Aberle testified that participating customers should not bear all costs of cost-effective conservation programs. She said MDU the programs benefit all customers by avoiding incremental costs related to serving increasing demand. She said if conservation program costs are not a legitimate part of the overall cost of providing gas service, the programs should be terminated. She compared Nordell's proposal to recovering all Universal System Benefits funds from customers that receive direct benefits.

29. Aberle defended MDU's lost distribution revenue recovery proposal. She said lost distribution revenue should be viewed as a direct program cost in order to recognize the long-term benefits to all customers of reduced demand -- reduced commodity costs and avoided incremental pipeline costs. She said both the Montana and South Dakota Commissions have determined that it is unfair to expect utilities to implement programs that reduce sales without providing recovery of the foregone distribution revenues. To do otherwise would penalize the utility financially for doing the right thing, she said.

COMMISSION DISCUSSION AND DECISIONS

30. In its application MDU has proposed six natural gas conservation and energy efficiency programs: 1) customer conservation starter kits; 2) residential/small general service online energy audits; 3) high efficiency furnace incentives; 4) high efficiency boiler incentives; 5) high efficiency water heater incentives; and 6) programmable thermostat incentives. Nordell contested the cost-effectiveness of the boiler and water heater programs. *MCC-1, pp. 6-7.* In rebuttal testimony Aberle agreed with Nordell that these programs would not be cost-effective on a stand alone basis and should be discontinued. *MDU-2, p. 2, TR p. 10.*

31. Nordell found the high efficiency furnace and programmable thermostat incentive programs reasonable. He testified that, subject to the assumptions underlying MDU's cost-effectiveness analysis, the furnace program would produce a cost of saved gas of $3.09 per dekatherm, roughly half the avoided cost of purchased gas. *MCC-1, p. 4.* He stated that the

programmable thermostat program appeared to be the best of the four incentive programs and recommended that the Commission encourage MDU to vigorously pursue this program. *MCC-1, p. 7.*

32. In her opening statement at the public hearing, MCC attorney, Ms. Mary Wright, said MCC does not object to providing customers incentives. *TR p. 11.* Nordell, responding to a question from Commissioner Mood, clarified that he did not recommend collecting program costs solely from participants. *TR p. 21.* Nordell also stated he did not analyze MDU's proposed conservation starter kits and online energy audit proposals. *TR p. 18.*

Contested issues: lost revenue recovery

33. The only unresolved contested issue in this docket involves MDU's proposal to recover lost revenue associated with reduced sales to program participants.[8] Nordell opposed lost revenue recovery asserting that lost revenue cannot be measured or verified. He also stated MDU does not need lost revenue recovery to induce it to pursue cost-effective energy efficiency if the Commission directs such investments. Nordell said recovering lost revenue from non-participants would be unfair. *MCC-1, p. 4.* Aberle testified that it would be unfair to expect a utility to implement programs that reduce sales without allowing recovery of foregone revenue. She said denying lost revenue recovery would penalize the utility for doing the right thing. *MDU-2, pp. 3-4.*

34. The record in this proceeding does not contain complete and thorough economic and public policy arguments for and against lost revenue adjustments between rate cases. Although Nordell questioned the need for and accuracy of lost revenue adjustments, he acknowledged that the Commission has previously considered and approved a similar mechanism for NorthWestern Energy (NWE) for electric demand-side management programs. *TR p. 19.* For NWE, the Commission determined that lost revenue is sufficiently measurable and verifiable and that, on a temporary basis, lost revenue adjustments are reasonable in order to address financial disincentives the Company faces between rate cases which threaten optimal demand-side resource acquisition. *See PSC Docket No. D2004.6.90, Order 6574e.* The Commission

[8] Although Nordell contested the cost-effectiveness of the boiler and water heater programs, in rebuttal testimony Aberle agreed and recommended terminating these programs. Nordell, did not review the on-line energy audit and conservation starter kit programs and took no position on them.

committed to further evaluate the on-going appropriateness of the NWE lost revenue adjustment after several years of experience.

35. Nordell's argument that it would be unfair for non-participants to pay for lost revenue is new, MCC did not make that argument in the case of NWE's electric lost revenue recovery mechanism. According to Nordell, non-participants pay most of the program cost but do not receive much of the direct benefit. *MCC-1, pp. 4-5*. Nordell recommended recovering lost revenue solely from program participants to eliminate this inequity.

36. Although the Commission authorized NWE to recover lost revenue on a temporary basis, MDU's proposal differs from NWE's and, therefore, warrants somewhat different treatment. First, under the NWE approach, lost revenue calculations are not final until program savings are independently evaluated and verified after-the-fact. Ratepayers are only responsible for lost revenue from verified savings -- interim lost revenue recovery is adjusted based on the independent savings evaluation. In contrast, MDU's approach would rely on pre-program engineering estimates of savings and annual verification, by MDU, of the number of program participants. *PSC-003 and MCC-003*. MDU would not verify savings predicted by engineering estimates after-the-fact.

37. Second, the base efficiency of existing furnaces and the average annual gas use of existing furnaces, both of which determine program savings and, hence, lost revenue estimates, do not appear to tie directly to MDU's service territory. In the October 2005 filing, Appendix B, MDU referenced "Energy Star LBNL 2004" as the source of the base efficiency and annual gas use inputs. The accuracy of these inputs is particularly important given the absence of an after-the-fact, independent program evaluation and savings verification. In its response to a data request (*PSC-003*), MDU explained that it would verify the efficiency of the equipment *installed*. But without also verifying the efficiency of the equipment replaced, and actual typical equipment use, there is room for substantial error. In the case of programmable thermostats it would be important to verify, for example through statistical sampling, whether the assumed temperature set-back persists once a customer has installed the thermostat.

38. Third, a lost revenue tracker balance must be reset to zero following a rate case because the billing determinants the Commission uses to set rates will reflect consumption changes associated with prior demand-side programs, a point MDU acknowledged (*MCC-004*). However, the tariff MDU proposed in its October 2005 filing combines tracking adjustments for

program expenses and lost revenue and does not clearly indicate that the lost revenue component will be reset following the next general rate case.

39. The Commission conditionally approves MDU's lost revenue recovery proposal, on an interim basis, for a three-year period. On or before May 1, 2008, MDU must make a filing with the Commission that addresses the Commission's savings verification concerns and adjusts, as necessary, the engineering estimate-based lost revenue calculations. Lost revenue-related rate adjustments prior to May 1, 2008 will be interim adjustments pending final approval following an opportunity for public hearing on, and review of, MDU's May 2008 filing. As described in PSC Order 6574e, the Commission intends a more comprehensive review of the lost revenue disincentive and various alternatives for addressing it in a manner consistent with sound regulatory policy. The Commission encourages MDU to participate in that review.

40. The Commission does not adopt Nordell's proposal to collect lost revenue solely from program participants for several reasons. The record in this proceeding does not adequately support his proposal. First, as discussed more below, on closer inspection the furnace program, which Nordell discussed to support his unfairness argument, is not inequitable in the long-run.

41. Second, recovering lost revenue solely from participants would be a round-about way of making distribution rates non-bypassable when customers participate in utility energy efficiency programs. But Nordell's proposal would not make distribution rates non-bypassable when customers pursue energy efficiency improvements on their own. Nordell did not adequately explain the logic of this approach given that market failure is a primary justification for utility-sponsored energy efficiency programs. Due to market failure, customers do not invest in an economically efficient level of demand-side resources and the total cost of service is higher as a result.[9] Nordell's concern over the equity affects of programmatic conservation in the context of bypassable distribution rates and lost revenue adjustments may warrant further consideration. However, the record in this proceeding is not well developed in this regard and Nordell's proposal appears to interfere with long-term objectives for minimizing total cost of service.

42. Third, to the extent a demand-side program is inequitable, it may be possible to correct the inequity by modifying the program, for example by sharing more costs with participants (*i.e.*,

[9] See Docket 88.6.15, Order 5360d, paragraph 556, pp. 216-217.

reducing incentives). Notably, MDU would pay significantly less than its avoided costs at the proposed incentive level. If necessary to overcome market failure, MDU could justify increasing the incentive until its total program cost just equaled its avoided costs. In contrast, Nordell's recommendation to collect furnace program-related lost revenue solely from program participants would effectively reduce participants' incentives by almost 80%.[10] If program participation declined as a result, ratepayers and society would forego economic efficiency benefits.

43. Over the next several years, lost revenue rate impacts would be small. If MDU continued the furnace and thermostat programs through 2007 without filing a rate case, non-participants would pay about $0.018/dkt for lost revenue in 2007.[11] At this rate, a typical residential customer would pay about 14¢ per month. At the end of 2007, the total number of program participants in Montana would be 9,659, about 13% of residential and firm general service customers.

44. Finally, the Commission is authorizing lost revenue recovery to promote greater acquisition of cost-effective demand-side resources and achieve incremental long-term utility system and societal benefits through lower cost of service and more efficient allocation of resources. Since, in the aggregate, all customers and citizens benefit from more efficiently allocating resources, it may be reasonable to recover authorized lost revenue from all customers.

45. In discussing the inequity of recovering lost revenue from non-participants Nordell also appeared to question the equity of the underlying efficiency programs. For example, he testified that "non-participants get little or imperceptible benefit from the [furnace] program" while "subsidizing the benefits of participants." *MCC-1, p. 5*. In response to a data request (*PSC-006*), he stated that MDU's analysis of benefits and costs from the ratepayer perspective did not demonstrate that *all* ratepayers benefit. He asserted that participants get more than 100% of the furnace program's benefits. Looking only at energy savings, Nordell stated that the utility

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[10] $152,992 NPV lost revenue divided by 1,328 total participants equals $115 per participant, or 77% of the proposed $150 incentive. *See cost-effectiveness worksheets provided in response to data request PSC-001, Attachment A, pp. 1-6.*

[11] Assuming participation in the third year of the program increased by the number of new participants in the second year, 2007 lost revenue from the furnace and thermostat programs would be $35,501 and $133,861, respectively, or a total of $169,362. MDU's October 2005 filing, Attachment B, projected firm sales for the residential and firm general service classes of 9,681,097 Dkt. $169,362/9,681,097 = $0.0175/Dkt.

would save $704,000 while participants would save $1.12 million, in net present value. The following paragraphs discuss these issues.

46. First, as mentioned in paragraph 41, *supra*, market failure is a principal justification for utility investment in demand-side resources. In 1989 the Commission issued its seminal order on conservation resources in Montana Power Company Docket 88.6.15:

> The Commission finds valid the market failure arguments raised by intervenors. As a result of market failure, substantial conservation resources that are cost-effective, relative to a utility's other resource options, go undeveloped, therefore raising the total cost of service. The Commission is cognizant of the rate impacts that ensue from not taking the "no-losers" approach. The [Northwest Power Planning Council] is correct in stating rate design policy decisions can be used to mitigate the impacts that result from minimizing the total cost of service to all ratepayers. *Order 5360d, pp. 216-217.*

47. Second, if a cost-effectiveness test produces a benefit/cost ratio greater than one, by definition the perspective considered by the test would be better off with the program than without it. In practice, whether each ratepayer or each member of society benefits depends on how the costs and benefits of the program are distributed. It may not be practical or cost-effective to create a system of transfers to achieve a "no-losers" standard for each program. However, the economic benefits of cost-effective programs still accrue to the utility system and society. For this reason the Commission's electric integrated resource planning rules state:

> A non-participant (no-losers) test considers utility sponsored programs cost-effective only if rates to customers that do not participate in the program are not affected by the program. **A non-participant test should not be applied to demand-side resources just as it is not applied to any other resource choice**. *ARM 38.5.2005(2)(c) (emphasis added).*

48. The Commission encourages utilities to treat demand-side management and energy efficiency as resources.[12] Imperfect distribution of costs and benefits with regard to demand-side efficiency resources should not be viewed differently than imperfect distribution of other resource costs and benefits. Otherwise, the Commission would jeopardize its overarching regulatory objective to efficiently allocate society's resources to the provision of natural gas

[12] *See* Electric Default Supplier Procurement Guidelines, ARM 38.5.8218, Least Cost Planning – Electric Utilities, 38.5.2001-2012, and Preliminary Statement, Part D, NWE Natural Gas Tariff.

service and ensure just and reasonable rates.[13] That is not to say that utilities and the Commission should not reasonably attempt to minimize the impact on non-participants through cost sharing and sound program design.

49. The two uncontested incentive programs in this docket, high efficiency furnaces and programmable thermostats, each pass the TRC and societal cost test, as well as the ratepayer cost test and participant cost test. The resulting benefit/cost ratio for each cost-effectiveness test is shown in Table 2.

Table 2. Cost-effectiveness test benefit/cost ratios

Program	TRC	Societal	Ratepayer	Participant
High efficiency furnace	1.31	1.38	3.95	1.91
Programmable thermostats	12.51	13.24	34.7	13.67

50. With respect to Nordell's concern that participants get more than 100% of the furnace program's benefits, it is important to note that comparing benefits across various cost-effectiveness perspectives is not an apples-to-apples comparison. Participants receive benefits by avoiding a component of retail rates that recovers embedded, fixed distribution costs, which MDU wants to recover as lost revenue. But, from the total resource, societal, and utility system perspectives, lost revenue is neither a program cost nor a program benefit -- it reflects embedded costs related to the existing utility system. These costs will be incurred with or without the furnace program and, therefore, are not relevant to a forward-looking economic assessment of the value of energy efficiency programs. About 40% of the difference between the $704,000 utility system benefit and $1.12 million participant benefit referenced by Nordell is lost revenue. These benefits also reflect discounting using MDU's cost of capital. If consumers' individual discount rates are higher than MDU's cost of capital, the $1.12 million participant benefit may be overstated.[14] Financial incentives for participation account for most of the rest of the difference.

[13] A variant of this objective is stated explicitly in the electric least cost planning rules, *ARM 38.5.2001*, and flows from the provisions in Title 69, Chapter 3, MCA.

[14] If the net present value of TRC benefits is calculated using MDU's assumed 4.97% social discount rate, and the net present value of participant benefits is calculated using a 12% discount rate, TRC benefits exceed participant benefits.

51. Nordell recognized that looking just at energy savings ignores costs incurred by participants and program costs paid for by ratepayers, so he also compared benefits net of costs under the ratepayer cost test and the participant cost test.[15] That comparison showed a $526,000 net benefit under the ratepayer cost test, and a $536,000 net benefit under the participant test, in net present value terms. So, again, Nordell found participants would receive more than 100% of the program's benefit, which must mean that the program shifts too many dollars from non-participants to participants. However, if the lost revenue portion is removed from the calculation of the participants' net benefit the comparison becomes $526,000 vs. $383,557.

52. Any utility-sponsored demand-side program that offers financial incentives shifts dollars from non-participants to participants in a static sense. This does not necessarily pose an equity problem if the utility sustains a variety of cost-effective programs over time -- today's non-participants become tomorrow's participants. *TR pp. 59-60*. From an economic perspective, because the furnace efficiency program passes the total resource, societal and ratepayer cost tests, it would provide long-term benefits to the utility system and society. With the program, MDU would provide the same level of service at a lower total cost and the utility's and society's resources would be used more efficiently. Nordell endorsed this result, finding that energy efficiency is "good" and that MDU has a responsibility to meet customer needs in the most cost-effective way possible. *TR pp. 22, 27, 28, 30, 38*. Because MDU's cost of gas is projected to increase, the program becomes more cost-effective the longer it is continued, other things being equal (*i.e.*, participant costs, incentive levels, administrative costs).[16] And the benefits would be more widely distributed as more customers are able to participate.

C. Online energy audit

53. MDU proposed to contract for development of an online energy audit to help residential and small general service customers better understand how they use energy and how to improve their efficiency. At the hearing Nordell testified that he had not reviewed the online energy audit proposal. *TR p. 18*. Aberle testified that the package of natural gas conservation

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[15] *See* Response to data request PSC-006(b).

[16] If MDU's high efficiency furnace program cost effectiveness analysis is modified to assume the program operates for five years, the societal benefit/cost ratio rises to 1.67 compared to the 1.38 MDU calculated for a two year snapshot.

programs approved by the SDPUC did not include the online energy audit program. *TR p. 45*. Aberle said the SDPUC believed that customers have access to free online audits elsewhere and those online audits, although not tailored to MDU's service territory, are sufficient. *TR p. 60*.

54. Online audits, whether specifically tailored to MDU's system or not, are likely inferior to on-site audits in terms of their ability to identify air leaks, accurately assess existing insulation levels and appliance age/efficiency. As a result, on-site audits probably produce better recommendations for cost-effective energy efficiency improvements and prioritization of improvements. Additionally, on-site audits provide valuable education opportunities, which may overcome some sources of market failure. Ideally, the availability of on-site energy audits would be a standard feature of natural gas service, where natural gas is the primary heating source.

55. It is not clear how the online energy audit proposed by MDU would differ from other available online energy audit programs that are free, for example the Home Energy Analysis available at www.energystar.gov. Without additional information on the incremental benefits of MDU's proposed online energy audit, it is not clear the cost of the program is justified.

CONCLUSIONS OF LAW

1. All introductory matters, discussions, findings, and decisions set forth above that can properly be considered conclusions of law and that should be considered as such to preserve the integrity of this order are incorporated herein as conclusions of law.

2. MDU is a public utility within the meaning of that term at § 69-3-101, MCA. The PSC has jurisdiction over MDU in regard to MDU's application pursuant to provisions of Title 69, MCA, including at §§ 69-1-102, 69-3-102, 69-3-106, and 69-3-302, MCA

3. MDU's application for approval of natural gas conservation programs has been filed, noticed, and processed in accordance with Title 69, Ch. 3, MCA (public utilities), and Title 2, Chapter 4, MCA (Montana Administrative Procedures Act).

ORDER

1. MDU must discontinue the high efficiency boiler and water heater programs unless it can demonstrate that the programs are cost-effective over the long-term.

2. MDU's proposed high efficiency furnace and programmable thermostat incentive programs and customer conservation starter kit program are approved.

3. MDU is authorized to recover lost distribution revenue associated with the approved conservation and efficiency programs, on an interim and temporary basis. On or before May 1, 2008, MDU must make a filing that addresses the Commission's savings verification concerns, adjusts, as necessary, the engineering estimate-based lost revenue calculations, and adjusts rates to amortize any over- or under-collection. Lost revenue-related rate adjustments prior to May 1, 2008, will be interim adjustments pending final approval following an opportunity for public hearing on, and review of, MDU's May 2008 filing.

4. The Commission encourages MDU to participate in the Commission's comprehensive review of the lost revenue disincentive and various alternatives for addressing it in a manner consistent with sound regulatory policy, as described in Order 6574e, Docket D2004.6.90.

5. In approving MDU's conservation and energy efficiency programs, the South Dakota Public Utility Commission ordered MDU to prepare a questionnaire to be provided to each participant in the approved programs in order to gather additional information on the effectiveness of the programs. The SDPUC ordered MDU to file the results of the questionnaire annually. MDU must provide copies of the questionnaire developed pursuant to the SDPUC Order Approving Tariff Provisions, NG05-016, issued February 10, 2006, and the results filed annually with the SDPUC, to this Commission.

6. Before implementing the online energy audit program MDU must further justify the cost of the program, relative to existing, free online audit programs. The Commission encourages MDU to provide a link to the Energy Star Home Energy Analysis program, or a comparable audit program, from its website to the extent it does not implement the proposed online audit program.

7. MDU must file compliance tariffs to implement the conservation and energy efficiency program cost tracking and lost revenue recovery mechanism.

DONE AND DATED this 3rd day of October, 2006, by a vote of 3 to 2.

BY ORDER OF THE MONTANA PUBLIC SERVICE COMMISSION

_____
GREG JERGESON, Chairman

_____
BRAD MOLNAR, Vice-Chairman (voting to dissent)

_____
DOUG MOOD, Commissioner (voting to dissent)

_____
ROBERT H. RANEY, Commissioner

_____
THOMAS J. SCHNEIDER, Commissioner

ATTEST:

Connie Jones
Commission Secretary

(SEAL)

NOTE: Any interested party may request the Commission to reconsider this decision. A motion to reconsider must be filed within ten (10) days. *See ARM 38.2.4806*.